



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/586,378

07/14/2006

Toshihiro Tai

3400.P1434US

2951

23474 7590 10/13/2011
FLYNN THIEL BOUTELL & TANIS, P.C.
2026 RAMBLING ROAD
KALAMAZOO, MI 49008-1631

EXAMINER

KRUER, KEVIN R

ART UNIT

PAPER NUMBER

1787

MAIL DATE

DELIVERY MODE

10/13/2011

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/586,378	Applicant(s) TAI ET AL.	
	Examiner KEVIN R. KRUER	Art Unit 1787	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 August 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 20-29,31-40 and 50 is/are pending in the application.
- 4a) Of the above claim(s) 22-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 20,21,31-40 and 50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8-8-2011 has been entered.

Election/Restrictions

2. Claims 22-29 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention. Applicant is requested to correct the status identifier of said claims to reflect that they are withdrawn.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
4. Claims 20, 21, 31-40 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sano et al (US 5,326,811) in view of Morimoto (JP 2000-345031A) and Jeong et al (US 6,476,105).

Sano teaches a plated molded article comprising a polyamide resin in amounts of 30-80wt% and a polyphenylene ether resin in amounts of 20-0wt% (abstract). The

Art Unit: 1787

polyamide is herein understood to read on the claimed "matrix resin that has a water absorption after 24hr in 23C water, according to ISO62, of at least 0.6%" since it is compositionally identical to one of applicant's preferred embodiments (see claim 18).

The composition may further comprise a compatibilizer such as fumaric acid (water solubility=0.63g/100mL), maleic hydrazide (water solubility=6000mg/l), maleic acid (water solubility=78g/100ml) and the like (col 5, lines 15+). Each of said compatibilizers is individually understood to read on the claimed component (c) since each comprises hydrophilic functionality and is known to have a water solubility within the claimed range. The polyamide may comprise polyamide 6 (claim 16) or nylon 66 and the polyphenylene ether may comprise poly (2, 6-dimethyl 1, 4-phenylene ether) (claim 3). The molded article is useful as automotive components (col 1, lines 5+).

Sano does not teach that the polyamide composition may further comprise pentaerythritol. However, Morimoto teaches 0.05-5wt% dipentaerythritol may be added to polyamide compositions in order to give good fluidity and mechanical strength properties (abstract). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to add dipentaerythritol to the polyamide composition of Sano. The motivation for doing so would have been to improve the composition's flow and mechanical strength properties.

With regard to claim 20, the molding of Sano is herein understood to inherently meet the claimed adhesive strength since the plated molded article therein is compositionally and structurally identical to the claimed article.

Art Unit: 1787

Sano also does not teach the composition may further comprise a phosphorous compound. However, Jeong teaches that fire retardant materials such as triphenyl phosphate may be added to polyamide compositions in order to improve their fire retardant properties (col 3, lines 55+). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to add triphenyl phosphate to the composition of Sano in an amount sufficient in order to obtain the desired fire retardant properties.

With respect to claimed surfactant/emulsifying agent, Sano incorporates by reference the teachings of US 3,257,357 with regards to making the polyphenylene ether. In said reference, it is taught that a surfactant (emulsifying agent) may be added to the polyphenylene ether during polymerization (see col 2, lines 54+). This is similar to the manner in which applicant incorporates the emulsifying agent (page 11, first full paragraph in the specification). While Sano is silent to the amount of surfactant, it would have been obvious to one of ordinary skill in the art at the time the invention was made to add a surfactant in amounts sufficient in order to obtain the desired processability and polymerization properties of the composition. Furthermore, olefin sulfonates are conventional emulsifying agents (see 2002/0045056; 0068) which are well known in the art. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize conventional emulsifiers such as olefin sulfonates in the composition taught in Sano. The motivation for doing so would have been that such compounds are conventionally used in the art for said purpose.

Response to Arguments

Applicant's arguments filed 8/8/2011 have been fully considered but they are not persuasive.

With respect to Sano, applicant argues the reference fails to disclose any specific compositions which fall within the scope of the present claims. Said argument is noted but is not persuasive because a reference may be relied upon for all that it fairly teaches and is not limited to preferred or exemplary embodiments.

Applicant argues the plated resin molded article of the present invention exhibits unexpectedly high adhesive strength between a thermoplastic resin molded article and a plating resin. In order to establish the non-obviousness of the claimed invention, applicant has filed a 1.132 Declaration by Toshiro Tai and points to examples 7-9 in the originally filed specification. Applicant argues the amended claims agree in scope with the evidence presented. Said argument has been fully considered but is not persuasive because the showing is not commensurate in scope with the claimed invention. The showing is not made with regards to both water soluble substances currently claimed. The showing also is not made over the entirety of the claimed compositional range. Furthermore, the showing is not commensurate because it is not made with regards to any specie of polyphenylene ether or polyamide resin. Furthermore, the examples are plated in by a specific method whereas the claimed invention is directed toward any method of plating (electroless, sputtering, vapor deposition, etc).

For the reasons noted above, applicant's arguments are not persuasive.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KEVIN R. KRUER whose telephone number is (571)272-1510. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on 571-272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kevin R Krueer/
Primary Examiner, Art Unit 1787